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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/418,628	10/15/1999	TERRY L. WILLIAMS	6785-109	9136

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ROBERT J SACCO
AKERMAN SENTERFITT
222 LAKEVIEW AVE SUITE 400
P O BOX 3188
WEST PALM BEACH, FL 33402-3188

EXAMINER

DAVIS, TEMICA M

ART UNIT	PAPER NUMBER
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2681

DATE MAILED: 10/23/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.
09/418,628

Applicant(s)
Williams

Examiner
Temica M. Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Aug 8, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed August 8, 2003 have been fully considered but they are not persuasive.

Applicant argues that Haartsen, taken alone or in combination with Carney, fails to disclose that DSP processing resources may be assigned to perform baseband RF processing for any frequency channel of a broadband transceiver, and further argues that such assignment can occur dynamically to accommodate the varying demands placed upon the base station equipment.

The examiner, however, respectfully disagrees. Haartsen discloses, in a cellular system, selecting one of a plurality of base station transceivers, wherein each of the transceivers corresponds to one of a number of frequencies assigned to a frequency reuse plan (col. 3, lines 25-39, col. 5, lines 55-64). In these passages, Haartsen further discloses wherein each base station transceiver has its own set of pre-allocated channels to support the corresponding reuse plan wherein an available channel is assigned in order to process a call (col. 5, lines 55-64). These passages read on "each available CP resource capable of processing any one of a plurality of traffic channels contained on any frequency channel assigned to the BBS" as claimed in currently amended independent claims 1 and 8.

These channels are dynamically assigned or allocated to accommodate the varying demands based on an increased amount of mobile terminals needing channel resources in order

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to meet system capacity needs (col. 8, lines 50-58). The claimed invention requires that a cellular network determines a number of pooled available processors which are capable of handling a plurality of channels, and when a call is desired, if a channel is available, assigning the channel to the call. These claimed limitations are met in Haartsen (col. 7, lines 17-36, col. 7, line 65-col. 8, line 25).

Haartsen was combined with Carney only to show that a base station can support multiple cells. Therefore, the combination of Haartsen and Carney discloses the present invention as claimed. The rejection is set forth below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b).

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Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 18-20, 22 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Haartsen.

Regarding claims 18 and 23, Haartsen discloses a method/system for dynamically allocating signal processing resources in a wireless system, comprising allocating to a transceiver assigned to a cell, a first plurality of channel processor resources for processing traffic channels contained on a frequency channel(col. 3, lines 25-53, col. 5, line 55-col. 6, line 9); in response to notification of a call originating from or to a subscriber unit in said cell, determining if there is at least one of said first plurality of CP resources that is available for processing said call and assigning said call to any one of said first plurality of CP resources that is available (col. 7, lines 1-26, col. 7, line 65-col. 8, line 25).

Regarding claim 19, Haartsen discloses the method according to claim 18 further comprising the step of assigning at least a second plurality of CP resources to said transceiver responsive to said determining step if there is not an available one of said plurality of CP resources among said first plurality of CP resources (col. 7, line 65-col. 8, line 25).

Regarding claim 20, Haartsen discloses the method according to claim 18 further comprising the step of rejecting said call if all of said CP resources assigned to said transceiver

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are in use and there are no further CP resources available to be allocated to said transceiver (col. 8, lines 14-20).

Regarding claim 22, Haartsen discloses the method according to claim 18 further comprising the step of inherently decrementing a number of available CP resources in said cell when said call is assigned as evidenced by the fact that the network maintains a database which keeps track of available channels in a base station base on system channel usage (col. 8, lines 59-62).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5, 7-12 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haartsen et al (Haartsen) in view of Carney et al (Carney), U.S. Patent No. 5,970,410.

Regarding claims 1 and 8, Haartsen discloses a method and inherent means for determining a number of pooled available channel processor resources which are unused in a broadband base station (col. 4, lines 27-31, col. 7, lines 17-26 and col. 7, line 65-col. 8, line 13), said base station supporting a cell (col. 5, lines 55-64), each of said available CP resources

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capable of processing any of a plurality of traffic channels contained on any frequency channel assigned to said base station (col. 5, lines 55-64); in response to notification of a call originating from or to a subscriber in the cell, determining if said number of available CP resources of said base station is at least one (col. 8, line 59-col. 9, line 5); selecting any of said available CP resources for processing of said call and assigning said call to said available CP resource which has been selected (col. 8, lines 2-6).

Haartsen, however, fails to specifically disclose wherein the broadband base station supports a plurality of cells.

In a similar field of endeavor, Carney discloses a cellular system using in-band translators to enable efficient deployment of high capacity base transceivers systems.

Carney further discloses wherein a broadband base station supports a plurality of cells (col. 3, lines 8-18).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Haartsen with the broadband base station of Carney for the purpose of reducing the number of base stations in the cellular system thereby producing a cost-efficient system (Carney, col. 2, lines 50-58 and col. 3, lines 11-14).

Regarding claims 2 and 9, the combination of Haartsen and Carney discloses the method/means according to claims 1 and 8 and further discloses decrementing the number of available CP resources by one after said assigning step as evidenced by the fact a database is maintained to track channel availability (Haartsen, col. 8, lines 59-62).

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Regarding claims 3 and 10, the combination of Haartsen and Carney discloses the method/means according to claims 1 and 8 and further discloses the step of rejecting said call if all CP resources of said BBS are in use (Haartsen, col. 8, lines 14-20).

Regarding claims 4 and 11, the combination of Haartsen and Carney discloses method/means of claims 3 and 10 as described above. The combination however, fails to disclose incrementing a count of rejected calls each time a call is rejected for lack of sufficient available CP resources.

The examiner contends that such a feature is well known in the art and the examiner takes official notice as such.

Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the combination of Haartsen and Carney with counting the amount of rejected calls in the system due to lack of resources for the purpose of maintaining a record of system usage in order to help in determining if resources should be added to the system in order to service the amount of call traffic the system receives.

Regarding claims 5 and 12, the combination of Haartsen and Carney discloses the method/means according to claims 1 and 8 and further discloses wherein the number of available CP resources is inherently determined by counting the total number of CP resources assigned to the BBS (pre-allocated pooled channels) (col. 7, lines 17-36) and inherently decrementing said total number by at least one of , a total number of active subscriber calls in the BBS and the

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number of CP resources assigned for handling control channel traffic in said BBS as evidenced by the fact that a database keeps track of channel availability (col. 8, line 59-col. 9, line 5).

Regarding claims 7 and 14, the combination of Haartsen and Carney discloses the method/means according to claim 1 as described above. The combination, however, fails to disclose handing over said call from first cell of the BBS to a target cell of the BSS and continuing to process the call on said available resource which has been selected and assigned prior to the step of handing over the call to the target cell.

The examiner contends, however, that such a handoff method is well known in the art, and the examiner takes official notice as such.

Regarding claims 15 and 16, the combination of Haartsen and Carney discloses the method/means of claims 1 and 8, wherein said BBS is a sectorized BBS, said sectorized BBS supporting a plurality of sectors (Carney, col. 3, lines 48-52 and col. 8, lines 37-51; figures 5-7).

Regarding claim 17, the combination of Haartsen and Carney discloses the system of claim 16 and further discloses wherein said BBS comprises a plurality of broadband transceivers (Carney, col. 2, lines 50-54).

Therefore, at the time of invention, since it is known in the art that mobile stations move or travel across different geographical cells, it would have been obvious to a person of ordinary skill in the art to modify the combination of Haartsen and Carney with the well known handoff method in order to maintain the present call connection.

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6. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haartsen and Carney as applied to claims 1 and 8 above, and further in view of Bender et al (Bender), U.S. Patent No. 6,366,779.

Regarding claims 6 and 13, the combination of Haartsen and Carney discloses the method/means according to claims 1 and 8 as described. The combination, however, fails to specifically disclose the step of incrementing the number of available CP resources in said cell when said call is terminated.

In a similar field of endeavor, Bender discloses rapid assignment of a traffic channel in a cellular communications system.

Bender further discloses incrementing the number of available CP resources in a cell when a call is terminated (col. 3, lines 54-64).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the combination of Haartsen and Carney with the teachings of Bender for the purpose of improving system capacity by allowing other users of the system to use channels which are no longer being used.

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haartsen in view of Bender.

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Regarding claim 21, Haartsen discloses the method according to claim 18 as described above. Haartsen, however, fails to disclose the step of incrementing a number of available CP resources in said cell when said call is terminated.

Bender discloses incrementing a number of available CP resources in a cell when a call is terminated (col. 3, lines 54-64).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Haartsen with the teachings of Bender for the purpose of improving system capacity by allowing other users of the system to use channels which are no longer being used.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however,

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will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Temica M. Davis whose telephone number is (703) 306-5837. The examiner can normally be reached on Monday-Thursday from 7:00 am to 4:00 pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Sinh Tran, can be reached on (703) 305-4040.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC2600 Customer Service whose telephone number is (703)306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for any communications intended for entry).

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington.

VA., Sixth Floor (Receptionist).

Temica M. Davis
October 18, 2003


TEMICA M. DAVIS
PATENT EXAMINER